REMARKS

The Applicants have now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of September 12, 2003. The Examiner's recognition of allowable subject matter in **claims 7-8, 17-18, and 27-28** is noted with appreciation. Nevertheless, in light of the remarks made herein, reexamination and reconsideration of the application are respectfully requested.

The Office Action

In the Office Action mailed September 12, 2003:

Allowable subject matter was found in **claims 7, 8, 17, 18, 27 and 28**;

claims 1, 3-6, 11, 13-16, 21, 23-26, 33, 34 and 37 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,933,778 to Buhrmann ("Buhrmann") in view of U.S. Patent No. 5,905,789 to Will ("Will");

claims 31, 32, 35 and 36 were rejected under 35 U.S.C. §103(a) as being unpatentable over Buhrmann in view of Will and further in view of U.S. Patent No. 5,579,379 to D'Amico et al. ("D'Amico");

claims 2, 12 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Buhrmann and Will and in further view of subject matter the Office Action describes as "Applicant's admitted to prior art"; and

claims 9, 10, 19, 20, 29 and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Buhrmann in view of Will and further in view of U.S. Patent No. 5,757,903 to Welter ("Welter").

The Present Application

By way of brief review, the present application is directed to methods and systems for temporarily, diverting or "tandeming" an incoming call leg to an application node. Such tandeming is utilized to implement various advanced services, especially in mobile or other wireless environments. For example, tandeming can be used to implement --calling party pays-- services, --prepaid-- services, and --one number-- services. For calling party pays services, an application node generates billing and other information for telecommunications services to be billed to the calling party, rather than being billed to the called party. For prepaid services, the subscriber has prepaid for particular types of services, such as having paid in advance for an amount of communication time for wireless communication services. In this case, the application

node verifies that the subscriber has made sufficient prepayment to receive the incoming call. For one number services, the application node might, for example, aid a switch in the sequential alerting of various telephones of the subscriber, such as alerting a home telephone, and if unanswered alert a mobile telephone, followed by a paging device. After the application node has performed its particular function, the call is directed back to the switch from whence it came for further call processing (e.g., see page 2, lines 8-11 of the present application).

The various embodiments disclosed in the present application use a new parameter, referred to as a --tandem parameter--, to designate whether an incoming call leg to a particular subscriber is to be tandemed or diverted to an application node or is to be delivered directly to the subscriber. In some embodiments, a database, such as, a home location register or a visitor location register, stores information such as a subscriber profile. The subscriber profile includes a tandem parameter. A switching center is configured to receive an incoming call leg directed to a called party directory number and to transmit a message to the database to determine call treatment instructions. The call treatment instructions include the tandem parameter. The tandem parameter may indicate whether or not to tandem the incoming call leg and what kind of tandeming is to be performed. If so, a routing parameter is determined and digit analysis is performed and the switching center tandems or routes the incoming call leg to the appropriate application node based on the routing parameter and digit analysis. A default mode is provided for the incoming call leg should the digit analysis not be performed successfully.

In some embodiments, if the subscriber profile of a called party does not include a tandem parameter, the system looks for another indication that the call should be tandemed. For example, the system determines whether or not a trunk group of the incoming call leg is predesignated for tandeming. If the trunk group of the incoming call is predesignated for tandeming, the incoming call leg is tandemed to an application node. If there is no indication that the call should be tandemed, the call is routed based on the directory number of the called party.

The Cited References

In contrast, the primary reference of the Office Action to Buhrmann allegedly discloses a method and apparatus for providing telecommunication services based on a subscriber profile updated by a profile information manager. A subscriber enters

personal information into a Personal Information Manager (PIM) such as a palm or laptop computer. The Personal Information Manager, either automatically or based on additional profile requests entered by the subscriber, generates profile update data associated with the personal information. The personal information manager transmits the profile update data to a database in a telecommunications system which stores subscriber profile data. Upon receipt of the profile update data by the database, the subscriber profile data stored therein is updated in accordance with the subscriber profile update data. Therefore, telecommunication services, including call completion services and message reminder services are provided to the subscriber based on the updated subscriber profile data.

The Office Action asserts that Buhrmann teaches a tandem parameter and references call completion data (entries **604, 606, 610**) discussed by Buhrmann. However, Buhrmann does not disclose or suggest tandeming. It is respectfully submitted that tandeming is not necessarily required to provide the call forwarding (**604, 610**) and selective call acceptance (**606**) call completion services discussed by Buhrmann and disclosure of those services does not disclose or suggest tandeming.

Will allegedly discloses a call forwarding system using an adaptive model of user behavior. According to Will, subscribers to a personal telephone number service can receive calls placed to telephone numbers associated with an individual rather than a physical location or telephone line. A subscriber predefines a set of telephone numbers for telephones at locations frequented by the subscriber. When a call to a subscriber's personal telephone number is received, a model of the subscriber's behavior predicts the likelihood of the subscriber being at different locations, and the call is forwarded to a telephone at the most likely location, given the current day of the week and time of the day. The model is trained using data obtained by cases in which a caller calling the personal telephone number is successful in locating the subscriber.

The Office Action relies on Will for disclosure that it is well known in the art to tandem a call to an application node if the digit analysis was successful and when digit analysis has not been performed successfully, providing a default mode for the incoming call leg.

However, it is respectfully submitted that Will does not disclose or suggest tandeming. Instead, it is respectfully submitted Will discloses a system wherein a switch or telephone and network server **105** performs all call forwarding operations. Telephone network server **105** includes processor **150** and call forwarding system **160**.

--Processor **150** not only performs standard network operations, for example, connecting calls, but it also performs operations for call forwarding system **160**. Such operations include forwarding calls to personal telephone numbers as described below.-- (Column 4, lines 30-38). Call forwarding system **160** monitors all incoming calls and determines whether a call is to a subscriber's personal telephone number. All calls not to subscriber's personal telephone numbers are ignored. When determining that a received call is in fact to a specific subscriber's personal telephone number, system **160** activates a model of the subscriber's behavior. The model is a neural network used to predict the likelihood that a subscriber is at the location corresponding to each of the actual telephone numbers in the database. The likelihood is based on the history of the subscriber's behavior encoded in the model and the current time of day and day of the week when the call to the subscriber's personal telephone number is received. The actual telephone numbers from the database are then ordered in a sequence corresponding to the predicted likelihood that each corresponds to the subscriber's current location on the day and time that the call to his personal telephone number was received. Telephone network server **105** then connects the call to the subscriber's personal telephone to the actual telephone number in the sequence. Since the telephone network server **105** performs the call processing required for the call forwarding service, Will does not disclose or suggest tandeming.

D'Amico allegedly discloses a personal communications service having a calling party pays capability. However, D'Amico does not disclose or suggest that a tandeming parameter is used to provide the calling party pays capability.

Welter allegedly discloses a method and apparatus for processing and routing termination telephone calls. A termination telephone call is one that terminates at a specific predefined shared or specific predefined dedicated termination trunk group. Examples of such calls include, direct termination calls. A direct termination call (DTC) is a telephone call routed to a particular telecommunications switch and delivered to a particular dedicated access line directly connected to the terminating switch location. Routing information is contained in a DTC address, which includes identifiers for both the dedicated access line and the termination switch. A dedicated access line (DAL) is a transmission line that is dedicated for a particular customers use. Some advantages that subscribers gain by using dedicated access lines include the availability of high speed data transmission lines and/or high quality voice transmission lines, and a high rate of transmission line availability. A dedicated access line is directly connected

between a service provider's termination switch and a subscriber's termination device, such as a private branch exchange (PBX) (column 1, lines 43-65).

The Claims are Not Obvious

Claims 1, 3-16, 11, 13-16, 21, 23-26, 33, 34 and 37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Buhrmann in view of Will.

In explaining the rejection of independent **claims 1, 11 and 21**, the Office Action asserts that Buhrmann teaches a method, apparatus and system for intelligent tandeming of an incoming call to an application node in telecommunication systems and directs the attention of the applicants to the Abstract and to column 3, line 65 - column 4, line 17 in support of the assertion.

However, the Abstract of Buhrmann describes transferring information from a Personal Information Manager to a subscriber profile. Thereafter, the Abstract explains, telecommunication services, including call completion services and message reminder services, are provided to the subscriber based on the updated subscriber profile data. The referenced portions of columns 3 and 4 repeat some of the subject matter of the abstract and further explain that upon receiving a call placed to a communication device associated with the subscriber, the telecommunication system routes the call in accordance with the updated subscriber call completion data stored in the database. For example, the call may be routed to the communication device, to voicemail, or to some other alternate destination. In an advantageous embodiment, the telecommunication system is a wireless cellular communication network and the communication device is a mobile telephone. Alternatively, the telecommunication system could be a land line communication network and the communication device could be a conventional land line telephone.

It is respectfully submitted that performing the call completion services described by Buhrmann does not require tandeming. As used in the present application, --tandeming-- refers to a process whereby an incoming call leg is diverted or switched to an application node for call processing purposes and is then returned to the network switch from which it was diverted for subsequent delivery or routing (e.g., page 2, lines 8-11). It is respectfully submitted that all the call completion services described by Buhrmann can be provided without tandeming and Buhrmann does not disclose or suggest a tandem parameter or tandeming.

Additionally, the Office Action asserts that Buhrmann discloses when the

subscriber profile includes the tandem parameter obtaining a routing parameter. The Office Action draws an analogy between the tandem parameter of the present application and call completion information in the subscriber profile of Buhrmann and directs the attention of the Applicants to column 8, lines 21-25 in support of the assertion. However, column 8, lines 21-25 are unrelated to call processing. Instead, the referenced portion of column 8 describes a scenario where it is assumed that the subscriber enters profile requests in a profile request field **502** in a Personal Information Manager display **500** (column 4, line 65). A second entry **504** in that display, is a call completion request indicating that from 9 am until 10:30 am during a meeting with John in Room 4a, all calls to the subscriber mobile station **110** are to be forwarded to the subscriber's voicemail.

It is respectfully submitted that this is unrelated to a method for intelligent tandeming of an incoming call to an application node wherein when a subscriber profile includes a tandem parameter, obtaining a routing parameter and performing digit analysis. Instead, it is respectfully submitted that the referenced section of column 8 is directed to a subscriber interacting with a digital assistant device such as a Palm Pilot™.

The Office Action also asserts that Buhrmann teaches performing digit analysis when the subscriber profile includes a tandem parameter and directs the attention of the Applicants to column 10, lines 62-65 and column 11, lines 26-28 in support of the assertion. However, the referenced portion of column 10 is a reference to call forwarding and selective call acceptance data in a subscriber profile record and as such is unrelated to performing digit analysis. Column 11, lines 26-28 is part of an explanation of selective call acceptance whereby the network switch MSC **104** compares the telephone number of a calling party to a list of numbers for which calls are to be selectively accepted and if the number is found on the list, the call is routed as indicated in the subscriber profile. The reference portion of column 11 is unrelating to tandeming a call to an application node and is unrelated to performing digit analysis of a directory number of a called party.

The Office Action also asserts that Buhrmann discloses when digit analysis has been performed successfully, tandeming the incoming call leg to an adjunct network entity having an application node and directs the attention of the Applicants to column 11, lines 4-23 and a reference to a voicemail system made therein in support of the assertion. However, a voicemail system is a final destination for an incoming call leg in

Buhrmann. In the present application --tandeming-- is a process whereby a call leg is diverted to an application node for intermediate processing and then directed back to the switch from which it was diverted (e.g., page 2, lines 8-11). Buhrmann does not disclose or suggest tandeming. The referenced section describes a selective call completion feature that is carried out entirely by a Mobile Switching Center **104** without diverting an incoming call leg to an application node for intermediate processing.

The Office Action also asserts that Will discloses that it is well known in the art to tandem a call to an application node if digit analysis is successful and when digit analysis has not been successfully performed, providing a default mode for the incoming call leg. The Office Action directs the attention of the Applicants to FIG. 2, and column 5, lines 50-67 of Will in support of this assertion. However, the referenced section merely describes a sequential call forwarding to process. The sequential call forwarding process is performed entirely by the telephone network server **105**, which comprises processor **150** and call forwarding system **160**. Will does not disclose or suggest tandeming a call to an application node.

Furthermore, it is respectfully submitted that disclosure of failing to locate a called party (referenced by the Office Action) is not disclosure or even a suggestion of unsuccessful digit analysis.

For the foregoing reasons, Buhrmann and Will do not include the subject matter for which they are relied upon and **claims 1, 11 and 21**, as well as **claims 2-10, 12-20 and 22-37**, which depend therefrom, are unanticipated and are not obvious in light of Buhrmann and Will taken alone or in any combination.

Regarding **claims 3, 13 and 23**, the Office Action asserts that Will teaches a default mode comprises routing the incoming call leg to a called party directory number and directs the attention of the Applicants to column 11, lines 4-23 and FIG. 2 of Will in support of this assertion. However, routing a call to a second directory number because there is no answer at a first directory number, does not disclose or suggest routing a call to a called party directory number <u>when digit analysis for tandeming is not performed successfully</u>.

For the foregoing additional reasons, **claims 3, 13 and 23** are unanticipated and are not obvious in light of Buhrmann and Will taken alone or in any combination.

Regarding **claims 4, 14 and 24**, the Office Action asserts that Buhrmann, in view of Will, teach wherein a default mode comprises providing for an announcement to be played to a calling party of an incoming call leg. However, Buhrmann in view of Will

does not disclose or suggest providing an announcement to be played to a calling party of an incoming call leg because a digit analysis associated with tandeming of the incoming call leg has not been performed successfully.

For the foregoing additional reasons, **claims 4, 14 and 24** are unanticipated and are not obvious in light of Buhrmann and Will taken alone or in any combination.

Regarding **claims 5, 15 and 25**, the Office Action asserts that Buhrmann teaches the tandem parameter is a predesignated value of a field in the subscriber profile and directs the attention of the Applicants to column 10, lines 62-67 as well as steps **706** and **708** of Buhrmann in support of this assertion. However, as explained above, the call completion data entries of Buhrmann are not tandem parameters. Furthermore, it is respectfully submitted that the steps **706, 708** are performed by a switch (MSC **104**) and do not disclose or suggest tandeming (column 10, lines 56-59 and column 11, lines 6-7).

For the foregoing additional reasons, **claims 5, 15 and 25** are unanticipated and are not obvious in light of Buhrmann and Will taken alone or in any combination.

Regarding **claims 6, 16 and 26**, the Office Action asserts that Buhrmann teaches the tandem parameter is included as a predesignated value of a field within an ANSI-compatible calling features indicator parameter and directs the attention of the Applicants to column 5, line 52 - column 6, line 9. However, as explained above, Buhrmann does not disclose or suggest tandeming or a tandem parameter. Furthermore, it is respectfully submitted that the referenced portion of Buhrmann allegedly reviews a general structure of a wireless cellular communications network **102** and does not disclose or suggest that the tandem parameter is included as a predesignated value of a field within an ANSI-compatible calling features indicator parameter.

For the foregoing additional reasons, **claims 6, 16 and 26** are unanticipated and are not obvious in light of Buhrmann and Will taken alone or in any combination.

Claims 31, 32, 35 and 36 were rejected under 35 U.S.C. as being unpatentable over Buhrmann in view of Will and further in view of D'Amico.

The Office Action relies on D'Amico for disclosure of subscriber profiles stored in either an HLR or VLR. However, **claims 31, 32, 35 and 36** depend from **claim 21** and are patentably distinct and are not obvious for at least those reasons.

Claims 2, 12 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Buhrmann and Will and further in view of subject matter the Office

Action characterizes as "the Applicants admitted prior art". **Claims 2, 12 and 22** depend from **claims 1, 11 and 21** and are unanticipated and are not obvious in view of Buhrmann, Will and the present application for at least those reasons.

Claims 9, 10, 19, 20, 29 and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Buhrmann in view of Will and further in view of Welter. The Office Action relies on Welter for disclosure of selecting a terminating trunk and outpulsing the required number of subsequent address bits based on a called party number parameter. However, Buhrmann, Will and Welter do not disclose or suggest the selecting of a trunk group for tandeming purposes based on a routing parameter and digit analysis when a subscriber profile includes a tandem parameter recited in **claims 9, 10, 19, 20, 29 and 30**. For the foregoing reasons, **claims 9, 10, 19, 20, 29 and 30** are unanticipated and are not obvious in view of Buhrmann, Will and Welter taken alone or in any combination.

Telephone Interview

In the interests of advancing this application to issue the Applicants respectfully request that the Examiner telephone the undersigned to discuss the foregoing or any suggestions that the Examiner may have to place the case in condition for allowance.

CONCLUSION

Claims 1-37 remain in the application. For the foregoing reasons, the claims are in condition for allowance and an early indication thereof is respectfully requested.

Respectfully submitted,

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